TABLE 4

No.	Center electrode (mm)	Tip size (mm)	Ground electrode (mm)	L1 (mm)	L2 (mm)	T (mm)	S1 (mm^2)	S2 (mm^2)	S1/S2	Ignitability	Wear resistance
16-1-1	Φ1.6	1.9 × 1.9	2.7	0.10	0.40	0.20	1.62	3.42	0.47	A	SS
16-1-2	Φ1.6	1.9 × 1.9	2.7	0.10	0.40	0.20	1.62	3.42	0.47	A	SSS
16-4-1	Φ1.6	1.9 × 1.9	2.7	0.10	0.40	0.40	1.62	3.42	0.47	A	S
16-4-2	Φ1.6	1.9 × 1.9	2.7	0.10	0.40	0.40	1.62	3.42	0.47	A	SS

[0057] The samples of No. 16-1-1 and No. 16-4-1 indicated in Table 4 are the same as the samples indicated in Table 3, and the core material **38** was not included in the ground electrode **30** in each sample. Meanwhile, in each of samples of No. 16-1-2 and No. 16-4-2, a copper alloy having the coefficient of thermal conductivity of 390.0 [W/m·K] at 1000° C. was enclosed as the core material **38** in the ground electrode **30**.

[0058] Referring to Table 4, in the samples of No. 16-1-2 and No. 16-4-2 in which the core material **38** was enclosed in the ground electrode **30**, wear resistance was better than in the samples of No. 16-1-1 and No. 16-4-1 in which the core material **38** was not enclosed in the ground electrode **30**. Therefore, the result of the evaluation test in Table 4 indicates that the ground electrode **30** preferably has thereinside the core material **38** having a coefficient of thermal conductivity which is higher than that of the ground electrode **30** in the spark plug **100** of the above embodiment.

C. Modifications

Modification 1

[0059] In the above embodiment, the noble metal tip **31** projects toward the center electrode **20** from one side surface **34** of the ground electrode **30**. However, the noble metal tip **31** may not project from one side surface **34** of the ground electrode **30**. Further, the projection amount T may be greater than 0.35 mm.

Modification 2

[0060] In the above embodiment, the coefficient of thermal conductivity of the ground electrode **30** may be lower than the coefficient of thermal conductivity of the noble metal tip **31**.

Modification 3

[0061] In the above embodiment, the ground electrode **30** may not have the core material **38**.

Modification 4

[0062] The configuration of the ignition system **200** is not limited to the configuration shown in FIG. **5**, and various configurations can be used for the ignition system **200**. For example, the ignition system **200** may not include the second power supply **220**, the impedance matching circuit **240**, and/or the mixing circuit **250**, and power may be supplied by the first power supply **210**.

Modification 5

[0063] The spark plug **100** according to the above embodiment may not include the ceramic resistor **63**.

[0064] The present invention is not limited to the embodiments, examples, and modifications described above, and can be embodied in various configurations without departing from the gist of the present invention. For example, the technical features in the embodiments, examples, and modifications corresponding to the technical features in each aspect described in the Summary of the Invention section can be appropriately replaced or combined to solve some of or all of the foregoing problems, or to achieve some of or all of the foregoing effects. Further, such technical features can be appropriately deleted if not described as being essential in the present specification.

DESCRIPTION OF REFERENCE NUMERALS

[0065] **10**: insulator;
[0066] **12**: axial hole;
[0067] **13**: leg portion;
[0068] **14**: axial hole step portion;
[0069] **15**: ceramic step portion;
[0070] **17**: one end side trunk portion;
[0071] **18**: the other end side trunk portion;
[0072] **19**: central trunk portion;
[0073] **20**: center electrode;
[0074] **21**: electrode base material;
[0075] **22**: core material;
[0076] **23**: flange portion;
[0077] **24**: end surface;
[0078] **25**: end point;
[0079] **30**: ground electrode;
[0080] **31**: noble metal tip;
[0081] **32**: base end portion;
[0082] **33**: front end portion;
[0083] **34**: one side surface;
[0084] **35**: intermediate portion;
[0085] **36**: end surface;
[0086] **37**: front end;
[0087] **38**: core material;
[0088] **40**: metal terminal;
[0089] **50**: metal shell;
[0090] **51**: tool engagement portion;
[0091] **52**: mounting screw portion;
[0092] **53**: crimp portion;
[0093] **54**: seal portion;
[0094] **56**: metal shell step portion;
[0095] **57**: end surface;
[0096] **58**: compressive deformation portion;
[0097] **63**: ceramic resistor;
[0098] **64**: seal body;
[0099] **65**: gasket;
[0100] **66**, **67**: ring member;
[0101] **68**: sheet packing;
[0102] **69**: talc;
[0103] **100**: spark plug;